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ABSTRACT

Team teaching involves individualized instruction and flexibility in structural and instructional organization, as well as continuous evaluation of students and instructional procedures. By sharing responsibility for instruction, each teacher can function primarily in areas of strength and expertise. It thus becomes more possible to achieve the goal of individualized instruction, although not necessarily on a one-to-one basis. Team teaching offers several options--large or small group instruction, independent study--which can be chosen for the purposes each can best fulfill. For a team teaching venture to produce the best results, it is necessary for teachers to understand the philosophy underlying practice. They must then establish educational objectives for their students and determine the means necessary to best accomplish these objectives. Planning must include provision for adequate record keeping so teachers can fulfill their responsibilities for reporting to parents and the school administration. The concept of team teaching has potential for meeting the current demand for educational effectiveness in the classroom because of its philosophy, formulation of objectives, organizational factors, interpersonal and professional considerations, and numerous benefits for students. (An annotated bibliography on team teaching, prepared by the ERIC Clearinghouse on Teacher Education, is appended.) (Author/JS)

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What Research Says to the Teacher

Team Teaching

by Jean E. Davis

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CONTENTS

Introduction 5

Team Teaching Philosophy 6

Establishing Team Teaching Objectives 7

Means of Accomplishing Objectives 10

Structure of Teaching Teams 12

- Teachers 12
- Professional Specialists 12
- Administrators 13
- Auxiliary Personnel 14

Management of the Setting for Learning 15

Grouping Students 17

- Large Group Instruction 19
- Small Group Instruction 19
- Independent Study 20

Instructional Preparation 20

Determining Success in Meeting Objectives 22

Professional Relationships 22

Summary 24

Selected Research References 26

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INTRODUCTION

The term *team teaching* means different things in different contexts. It can refer to two sixth-grade teachers exchanging classrooms for an hour a day, one to teach English and the other to teach math. It can also refer to two (or more) specially trained teachers sharing the same classroom on a continuing basis to provide carefully sequenced instruction to students whose needs each is particularly able to meet. At its best, team teaching is a cooperative effort involving planning, managing, and evaluating interrelationships among teachers, students, and instructional materials. Therefore, as demands for increased educational effectiveness continue to mandate educational change, a closer look at team teaching—the underlying philosophy, the formulation of objectives, the organizational factors, the interpersonal and professional considerations, the benefits for students—can indicate its possibilities as a way to meet those demands.

Team Teaching Philosophy

Educators have become aware that there is no such thing as a total class of students at one level of learning. No matter how students are grouped, there are as many levels of learning in any one group as there are students in the group (1). Educators have also become more aware of the variations in the knowledge, competence, and skills of teachers. The personal styles and value systems of teachers, combined with these professional variations, influence their teaching styles, which in turn affect the general atmosphere of the learning setting as well as how and what the students learn (1).

Basic to team teaching is an attempt to put together teachers with varying abilities in content knowledge and skills in order to capitalize on individual teaching strengths and to minimize weaknesses. This combination or balancing of experienced and inexperienced teachers should provide the teachers involved with an opportunity to learn from each other in a way that benefits both themselves and the students. Further, when teachers are working with students who are most likely to be able to adapt and learn from them, then both the teachers and the students can achieve more and experience greater satisfaction from the learning setting.

Research indicates that teachers who engage in team teaching must be able to work together harmoniously toward mutually acceptable ends through mutually acceptable means. They must be able to share space and students rather than assume the traditional proprietary rights to what they once thought of as their rooms or their students (21).

The teachers should be able to reject the old educational concept of students as malleable clay that they have a duty to mold into adults (21). They should be able to accept the newer educational concept of themselves as resource people or as coordinators and directors of learning (9). They are facilitators, persons who are responsible for setting up a situation where learning can take place. They should be able to help students assume responsibility for a large part of what they get from their total educational experience (11). They should be able to look upon a student's failure to accomplish a specific task as "an orienting experience pointing the way for subsequent trial" (17). They should be able to involve students in planning their goals and in determining what study is needed to attain the goals (11). They should be aware that the behavior and attitudes of those around each

student give the student a "notion of his abilities, and what to expect of himself" (17).

Establishing Team Teaching Objectives

"Knowledge is a means to education, not its end." It is only "one part of an individual's personal experience." More important than whether or not a student learns a concept or a skill is what the student can do with it. "The structure of knowledge is personal and idiosyncratic and formed by each individual's experience with the world" (1). In determining their objectives for students' learning experiences, educators must consider what items of knowledge and what competencies are basic and crucial for each student to learn. Then they also must consider the network of associations that can be made with a specific item of knowledge. After that they must be aware of how the student utilizes that knowledge.

Preparation is a vital element of effective team teaching. The teachers who agree to work as a team must arrive at a mutually acceptable understanding of both their general and specific educational objectives (5). The ongoing discussions that lead to this understanding can be awkward and time consuming. A carefully prepared agenda for each meeting (discussed at the conclusion of the previous meeting) often helps focus the discussion (17).

Research and development specialists and curriculum specialists should be available to help the teachers plan their objectives. Curriculum planning must focus on what educators know about students and on the abilities, needs, and learning levels of the students with whom they will work. To accomplish well-defined educational objectives, each teacher must function as an integrated part of the whole that is the teaching team. Much long-range preplanning and organization—even as much as a year or two of planning—should precede the practice. Although such long-range planning is ideal, in many situations it will not be practicable and team teachers will often find themselves with no more than four or five months for planning. Although team teaching may appear to be informal, in actuality it should be highly structured.

First, the teachers must identify the phases of the curriculum that can be best developed either in a horizontal or in a vertical progression (5). The stages of human development and maturation as identified by Piaget determine the vertical progression, which are the

logical learning activities for various physical developmental stages, regardless of the instructional program utilized (1). Although the rate of learning may vary, the sequence of developmental stages is fairly constant. Horizontal progression involves specific learnings suitable for each stage of development and making a specific learning more meaningful through experiences that explore the various associations or applications of that learning. The teachers must focus on the most relevant learnings for each stage of development. This is where team teaching offers strengths in increasing the meaningfulness of what is learned (1).

Second, the teachers must distinguish between phases of the curriculum that can be observed or tested objectively and those that are more subjective and must be developed as conceptual schemes (7). These might be referred to as the cognitive and the affective domains respectively. The phases that can be observed or tested objectively

can be stated as behavioral or performance objectives. Once these objectives have been stated and ordered into a logical sequence, it is possible to plan criterion testing to determine how well they have been achieved. Professional specialists can assist the team teachers in planning this testing.

Third, the teachers must determine which objectives within a set discipline of the curriculum lend themselves to the development of a theme and then which themes have natural relationships between or among disciplines. The objectives should be grouped again by themes, the teachers keeping in mind that a sequential development is necessary to progress from one objective to another.

Fourth, the teachers must organize their objectives into units or work modules that represent separate and distinct learnings. This organization will facilitate the ordering of specific instruction into a logical sequence of lessons.

Fifth, each objective must be further examined to determine whether it would be most effectively and efficiently achieved by students in large instructional groups, in small instructional groups, or in individual work activities. The size of the instructional groups should be determined by the nature of the instructional task or activity and the individual learning style (9). Large group instruction (including more than five or six learners) involves such activities as presenting basic information, screening television programs for instructional content, guiding some simulation activities, lecturing, testing or evaluating procedures, and presenting entertainments. Small group instruction includes tutoring, encouraging most discovery learning, informal lecturing, and using questions to develop insights and understandings. Individual work involves such independent activities as reading, doing research, answering quizzes, and going through a variety of programmed instruction.

Sixth, the teachers must become familiar with the students with whom they expect to work. With the help of other professional staff members, they must examine each student individually to determine her his aptitudes, abilities, present learning levels, quantity and quality of work, study habits, overall adjustment to school, and available diagnostic recommendations and prescriptions. They must determine each student's instructional needs, learning styles, and typical behavior patterns; then they must determine what kinds of social and work behaviors to encourage or discourage. A new situation requires new codes of behavior (6). Teachers in a team teaching

situation must keep in mind that they cannot exert the same kind of control over student behavior that they would in a self-contained classroom. This makes it all the more important that they set up appropriate educational objectives for each student and determine where she/he should enter the units or modules of work. As far as possible, they must also try to match the learning styles of individual students with the teaching styles of particular teachers.

Means of Accomplishing Objectives

Once the teachers have established their objectives, they must look for means to accomplish them (5). They must examine their educational goals in relation to available educational materials and instructional space. They must review the available educational materials (data-processing systems, teaching machines, and pupil-instructional materials) and determine which ones they can use and what additional materials should be purchased or made.

The teachers must plan the most effective and efficient use of available space for the different student groupings—large group instruction and small group instruction as well as individual work activities. They will need to consider either using existing learning laboratories, small conference rooms, and independent study centers or study carrels or possibly setting them up. They must anticipate how much students will move around in the general learning area and how to organize the area to facilitate this movement.

The teachers must also determine what student and teacher behaviors are necessary to facilitate learning in a specific learning setting and what student activities can and cannot be carried out in that setting (6). They must determine whether or not activities that cannot be carried out in a specific setting are valuable enough to warrant scheduling additional time and space. If they determine that the activities are valuable, they must secure administrative permission for additional space.

The teachers must determine what kind and how much auxiliary personnel they need to accomplish their objectives effectively or efficiently. How many and what kinds of field trips are necessary to meet their educational objectives is another area to consider. Available community and school services should be surveyed so they can choose the ones that offer the greatest promise of helping attain

educational goals. The teachers must schedule time for various types of learning activities. They must identify an acceptable method or organizational pattern for instruction. This would include a basic pattern of presentation, of individual practice or reinforcement, and of evaluation that would, of course, be subject to variations based on content of instructional material.

The teachers must also identify the role of each team member. They must be sure, individually and collectively, that each person understands her his role as well as the roles of the other team members. Throughout the planning stages, it is especially important tnat the teachers secure the support of the school administration. Only the administration can assign school space, school time, educational materials, supportive personnel, and groups of students in a school system. In addition to the issues related to the physical plant, personnel, and supplies, the administration can help the teaching team maintain good relationships with other teachers working out of traditional classroom situations.

After the teachers analyze the students with whom they expect to work, they may need to revise some of their plans for time, space, materials, other professional specialists, and auxiliary personnel. This general preplanning is necessary, however, before students enter the program. Like all planning, it should be flexible enough to allow for change.

Structure of Teaching Teams

Each teaching team may consist of one to six certified teachers, other professional specialists, and auxiliary personnel who work with one or more groups of students (9). The membership may be more or less fixed, or it may change as situations require (17). The more heterogeneity in terms of age, education, and total teaching and team teaching experience in the membership, the more opportunity each team member and each student will have for learning (2).

Teachers

The preplanning stages of team teaching should develop a sense of harmony among the teachers. Each should be aware and accepting of the others' strengths and weaknesses. This awareness should help the teachers agree on which responsibilities for instruction each one will assume. Each teacher should be responsible for instruction in those areas of a discipline in which she/he has the most knowledge, competence, and skill. Those teachers who work best with large groups should assume the responsibility for large group instruction; those who work best with small groups should plan to do most of their instruction in this way (5). Insofar as it is possible, teachers should work with particular students on the basis of two main considerations: first, which students appear to work best under which teaching styles, and second, which students need specific kinds of instruction.

Once each teacher's teaching responsibilities are defined, she/he can begin to make teaching plans. The initial delegations of responsibility should be recognized as tentative. Neither teachers' responsibilities nor student groupings should be regarded as inviolable, since happenings over time may indicate the desirability of change.

Professional specialists

Some professional specialists, such as a music teacher, an art teacher, the school librarian, or a gym teacher, may be automatically assigned to the group on a regular time and/or space basis. The relationship with specialists of this type is an ongoing one that involves keeping them aware of what is going on in the basic learning setting and planning with them how they can best contribute to each

student's progress within the objectives that they have established for their disciplines.

Other professional specialists, such as a school psychologist, a child therapist, a reading specialist, a media specialist, or a guidance counselor, are usually assigned to the team on the basis of student need. The analysis that the teachers make of students and their educational objectives in the planning stages thus becomes the basis for a fairly accurate evaluation of the need for professional specialists (19). In most cases it is recommended that these specialists spend the bulk of their time advising the teaching team, though it is important that they have some direct contact with students in an instructional capacity.

Some professional specialists should be available to assist the teachers in constructing their educational measurement instruments and in helping to evaluate educational growth of both the students and the teachers themselves (19). Appropriate record keeping and evaluation of students' work is crucial to the team if they are to develop and to progress in their knowledge of their students and their educational practices. The teachers need to know whether or not they are meeting their educational objectives and must be able to demonstrate this to school administrators and to parents.

Administrators

Administrators have important roles to play in the development of good team teaching situations. The principal, for example, is the person whose duty it is to provide leadership for the school building by directing and encouraging the staff. This affects the teaching team as well as teachers working in more traditional classrooms. One means to establishing this kind of leadership is holding regular meetings, ideally weekly or bimonthly, where all teachers can communicate their problems and concerns, seeking solutions through discussion. It is also up to the principal to provide the necessary resources for the teaching team, including funds, supplies, and supportive services. An officer from the central administrative staff can provide principal and teachers with the constant feedback and evaluation procedures involved in making team teaching work. This person can also help to communicate team experiences throughout the school district by means of newsletters and other printed material.

Auxiliary personnel

The auxiliary personnel assume the responsibility for work assigned to them by the teachers or other professional specialists. The professional staff cannot and must not relinquish to them the responsibility for curriculum decisions. The auxiliary personnel are assigned to the team as aides or assistants to help the teachers accomplish their educational objectives more effectively and efficiently (17). Some of this personnel would be clerical or secretarial in nature. They would assist in such tasks as the collection of money for various purposes, in entering information on records, in filing and organizing records, in gathering and organizing materials for instructional purposes, and in typing necessary records, forms, educational materials, and letters. Others might assume the responsibility for supervising students in hallways, on the school grounds, in the cafeteria, in the auditorium, or in extracurricular activities. Community consultants who are asked to make specific presentations or to provide special information would also be considered as auxiliary personnel.

Auxiliary personnel would also include instructional assistants, such as teacher interns or retired volunteers, who might correct or evaluate the students' written work, supervise out-of-school projects or assist with extracurricular activities, confer with students about their progress, and provide the teachers with reports (7). Student consultants might aiso be utilized to assist in instruction.

Whatever assistance auxiliary personnel offer the team, all persons should have their functions on the team defined for them (9). Every team member should fully understand each person's function and agree on some procedure for utilizing her/ his assistance so that no one person becomes overloaded with work assignments. Wherever possible, the personal style of auxiliary personnel should be matched to the personal styles of the team members. In every case it is important that each person feel that she/ he is making a worthwhile contribution to the team effort. Auxiliary personnel should be consulted about how their work can be more effectively and efficiently accomplished. Their different perspective may offer the teachers invaluable insights.

Both each person's role and the team membership itself may remain the same throughout the school year, or both the roles and the people on the teams may change many times. The team organization may be hierarchical (with a leader and other status designations) or it

may be egalitarian (with no status designations) (2). The instructional structure of the teams may vary in the following ways:

- Single group teaching teams. Two or more teachers share the responsibility for instructing two or more groups of students who are on approximately the same age, grade, or instructional level.
- Multiple group teaching teams. Two or more teachers share the responsibility for instructing two or more groups of students who are on approximately the same age, grade, or instructional level. They either exchange groups or regroup students for specific learning activities that involve specialized instruction.
- Multilevel group teaching teams. Several teachers share the responsibility for instructing several groups of students with varying age, grade, or instructional levels. They either exchange groups or regroup students for specific learning activities that involve common interests or common instructional needs.
- Single discipline teaching teams. The teachers of a particular discipline instruct their own specialities or special interests within that discipline. For example, the science teachers may divide that discipline into biological, zoological, or chemical learning activities.
- Related discipline teaching teams. The teachers of several disciplines instruct students cooperatively by teaching particular units of study that are related to each of their specialized disciplines.
- Multidiscipline teaching teams. The teachers of several disciplines instruct students cooperatively by teaching units of study that may or may not have relationships to each discipline.
- Symbiotic teaching teams. A teacher works closely with such nonteachers as members of the community, resource people, resource students, and community aides to instruct a group of students.

Management of the Setting for Learning

The teachers must determine what kind of learning setting they need to create to meet the education objectives they have set for themselves in a specific team teaching situation. Then they must try to

organize instructional space, materials, and time available to reflect their general educational philosophies and to accomplish their particular educational objectives.

The physical environment sets the tone for the learning experience. The space where instruction is conducted can either enhance or obstruct achieving the objectives of education. It can affect both intellectual factors (the styles of teaching and of learning) and physical factors (teacher and student activity or movement). Once the teachers have a general understanding of what they need to accomplish their objectives, they must examine the instructional space and materials available to them in relation to their objectives to determine the best possible organization. School facilities are not usually built to meet the needs of team teachers. Therefore, team teachers must usually adapt the existing facilities to meet their needs.

In terms of their educational objectives (curriculum), the teachers must plan how to utilize instructional space. They must determine what items of equipment, such as projectors, individual study carrels, or learning laboratories, need electric outlets or other installations. With the aid of the school administration, they must determine where and how to situate these installations for the most effective and efficient use in large group instruction, in small group instruction, and in independent study. They must anticipate the directions and degree of student traffic patterns around these installations. Then they can decide how to organize that area to facilitate this movement. The teachers must remember that other kinds of activities are also necessary to the curriculum (6). They must make sure the hardware doesn't take up more space than they can afford to devote to it. They must determine whether or not planned activities that cannot be carried out in the general learning area are valuable enough to warrant obtaining additional space.

The teachers should also keep in mind the kinds of student and teacher behavior necessary to facilitate learning in the space devoted to hardware and how these behaviors will influence the tone of the learning setting, either enhancing or obstructing the objectives of education (6). Some compromise will probably be necessary, but the compromise should not obstruct implementation of the general objectives of education: the compromise should involve specific objectives that can usually be revised within the framework of the general objectives to meet restrictions of space or materials.

The teaching team must anticipate the maximum large group instructional space, small group instructional space, and independent study space that they will need in and around the space allotted to hardware materials (9). They must determine whether they want to use the space for learning centers devoted to specific subject areas (i.e., science, art, mathematics) or for general learning and what materials or supplies (books, resource materials, instruction aids, paper, paint) they will need to store in each area. They may want to isolate one area from the other, possibly by using school furniture such as bookcases or cabinets as dividers or by constructing some other form of space divider. If the dividers are movable rather than stationary, it will be possible to rearrange the space as the need occurs.

The teachers must plan and organize their large group instruction, small group instruction, and individual conferences in terms of space and time (9). They must consider both factors in their planning sessions so that each teacher has the space for the length of time she/he needs it without conflicting with the needs of other teachers and students. In order to make the most effective and efficient use of space and time, the teachers must anticipate and schedule both student and teacher use of instructional or study areas. The schedules should be flexible. They may be prepared generally in a block of time fashion or more specifically in a daily or in a computer-generated module form for individual students or groups of students. The block of time format could be used for organizing for work with professional or instructional specialists assigned to the team on a temporary or intermittent basis as well as for scheduling activities involving such nonclassroom areas as an auditorium, a gymnasium, a library, or a cafeteria. Daily or computer-generated modular schedules could be used both to prepare work schedules for individual students and to help teachers determine how much space they actually need on any given day for specific group instruction.

Grouping Students

The individualization of instruction and continuous progress for students are accepted as desirable goals in education, but *how* to instruct individual students so that they can progress at their own rates and achieve their full potential is debatable (15). The idea of in-

dividualized instruction seems to imply a one-to-one situation, but that is neither practical nor desirable. No school system could afford to hire a teacher for each student, and such a system of instruction would severely limit a student's social adjustment. Although independent study and one-to-one instruction or tutoring have their place, group instruction and contact with other students and teachers are even more desirable for developing social skills.

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Large group instruction

This kind of instruction may involve 15 or more students (9). It can take the form of student discussions, teacher instruction, group participation in a project of mutual interest, or group planning for some coming event. It may also involve the entire teaching team and all the students in such things as viewing an educational or entertaining film, watching a TV show, listening to a radio program, listening to a dramatic or poetic reading, planning and taking field trips, performing gymnastic activities, viewing or presenting a program for the entire school, having a party, attending a topical presentation of resource people or educational specialists, sharing news items, or taking part in testing procedures. Some teachers or other team members may be more comfortable or more capable than others in addressing large groups, in holding students' attention and interest, and in encouraging student behavior that makes the experience more enjoyable and more profitable for both students and other team members. Large group instruction gives the students an opportunity to adjust their social behavior patterns in a way that is appropriate for being in large groups. Since the teachers have organized their objectives to include both social behavior and academic objectives, they can help the students acquire desirable behaviors by observing the students, discussing behaviors with them, and offering them encouragement and reinforcement for desirable behaviors. The teachers must keep their objectives in mind and must be sure that large group instruction reflects the objectives (6). It is easier to slip into techniques used in a self-contained classroom in large group instruction than in any other grouping. Since it is the nature of team teaching to separate both the team and the students into smaller units to achieve certain ends, it is important regularly to deal with the entire group. The students should have a sense of themselves in relation to the whole as well as a sense of their being grouped for various purposes.

Small group instruction

This mode of instruction usually involves two to five students at a time, but it could involve more. With guidance from the professional staff, everyone on the teaching team may take part in this kind of in-

struction (19). Since some objectives can be achieved in a small group situation, this kind of grouping will definitely have a place. A teacher or some other specialized professional may introduce a few students to a particular area of learning or demonstrate a particular concept or skill. Certain tests or other evaluations of student ability and achievement are best carried out in a small group setting. Other team members, possibly volunteers or auxiliary personnel, may work with a few students to increase their understanding of a particular skill or concept by guiding them through activities designed to reinforce that concept or skill. Other students and senior citizens are sometimes especially good in this capacity (16). In any event it is most important to match the student and her/his instructor to minimize problems in compatibility.

Independent study

This may involve working with various instructional media, programmed learning materials, or worksheets. These worksheets may offer new information, study questions on the information to focus the student's understanding of it, and suggested means of applying the information to a new context. The students may work with machines, in individual study carrels, at individual tables or desks, or in any other place that offers them the isolation from the group that they need to concentrate on their work.

Each student should experience each type of group instruction, although one format will probably dominate for each learner. That type of instruction should reflect both the student's preferred learning style and her/his instructional needs (9).

Instructional Preparation

Once each teacher has determined her/his role on the teaching team and the concomitant areas of instructional responsibility, it is time to begin professional preparation for educating the students. Prior discussion of educational objectives should have provided both a focus for instructional activities and an indication of the desired learning climate (5). The teacher should keep both of these aspects in mind as she/he plans activities to implement each objective. The type

of educational material selected, the way in which it is presented, the quality and the quantity both of student participation and of teacher direction, the nature and degree of teacher intervention, and the kind of reinforcement offered all should reflect the general educational philosophies agreed upon in planning the educational objectives. The initial teaching plans drawn up by each teacher should be examined by both professional specialists and all the teachers on the team until each teacher can recognize the theoretical basis underlying each of the practical activities (19).

Printed materials—both texts and background materials—that teachers intend to use should be evaluated for statements of rationale and the way in which the content carries out the rationale. They should then be reviewed for ways in which they may fit into the program, either as they are or with some adaptation.

Materials prepared by the teachers on the team and other teachers in the school or school system should also be examined and revised to reflect both the team's overall goals and specific instructional objectives as clearly and concisely as possible. Because the preparation of teaching aids requires considerable imagination, time, and skill, initially the teachers should limit the quantity of materials they prepare themselves. As much as possible they should direct their attention to published material that they can use as is or adapt for use. Too many fresh demands on their time and energy could leave them too exhausted to teach well. Even with the assistance of auxiliary personnel, time and skill are necessary to create and evaluate new materials. Especially in the early stages of team teaching time might better be spent in other ways, as later the teachers will probably have a clearer idea of what they need to develop in the way of new materials.

Worksheets for independent study require careful examination for content. If the worksheets are used by students without a teacher's guidance, they should be specific enough to guide the student through the information so that she/he can understand it, as well as offering some way to apply the information in a new context. For example, in a learning area such as science or mathematics, a how-to worksheet may be used to help the student gain a specific understanding or to go through a step-by-step procedure to complete an experiment or an operation. One difficulty with worksheets, however, is the limited ability of some students to discipline themselves to work in this way. Observation and intervention on the part of the teacher may be essential to help students develop the necessary discipline.

Determining Success in Meeting Objectives

The professional staff—both team teachers and specialists—are responsible for the students' educational progress. Whatever happens in the learning setting, the professional staff, especially the teachers, are held answerable to the state educational and legal departments, to the school administration, and to the parents of students (15). This is a responsibility that teachers in general and team teachers in particular must be prepared to accept.

Since most team teaching situations represent innovative approaches to teaching, it is vital that teachers keep accurate and detailed records of student progress. Where school system policy permits, it is also advisable to use standardized tests at the beginning and at the conclusion of a team teaching experience so that comparisons can be made between the educational growth of those students involved with the average growth of students nationwide. Such comparisons help teachers see how well they are meeting their responsibility as well as indicate areas in which they should reevaluate either their educational objectives or how they are attempting to meet them.

From here, it is best to get more specific and to discuss areas of study, the objectives in each study area, and performance criteria for specific objectives as well as the rationale for establishing objectives and criterion testing in the first place. *Performance criterion* and *criterion testing* may seem to imply a behavioristic approach to learning, but this is not necessarily so. Performance criteria can be stated in other terms, but whatever the terms, the teachers should state how they expect the students to show that they have accomplished each specific objective (7).

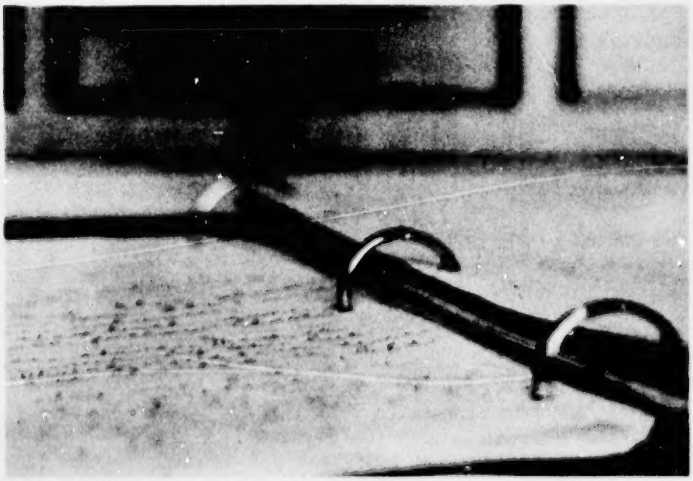
Professional Relationships

Throughout this publication, there has been repeated emphasis on the need for time for planning the team teaching approach. Because team teaching requires specific planning periods that must be scheduled for a time when all team members can be there (5), such periods often appear to reward team members and to penalize other teachers who are not functioning as team members. Therefore, special planning periods can be a source of difficulty with other school personnel. The additional school space and school supplies necessary for team teaching may also cause friction with other

teachers. Forewarned of these potential areas of difficulty, team teachers can enlist the support of their administration in creating an atmosphere where what they are doing will be seen as beneficial to the entire teaching-learning community. What is shown to be beneficial in one situation usually has carryover value into other contexts.

The effectiveness of team teaching depends upon the interrelationships of team members (8). Personality conflicts, conflicting educational philosophies, and conflicting interpretations of individual roles can create confusion in the learning setting. Tension or hostility on the part of members of the teaching team can make it difficult or impossible for them to teach or to become well-enough acquainted with the students to function effectively as educators. Therefore, it is especially important that the team members make a continuing effort to keep open the lines of communication so that small misunderstandings and confusions do not become major problems. It is not possible to avoid all tensions, but it is possible to deal with them as they arise by talking things out.

Team teaching presupposes a commitment of team teachers to the team teaching approach. It also presupposes that each teacher has an area of competency that complements those of the other teachers on the team. If teachers are arbitrarily assigned to a teaching team, it is very likely that neither supposition will be accurate.



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Summary

Team teaching involves individualized instruction and implies flexibility in structural and instructional organization as well as continuous evaluation of students and instructional procedures. By sharing responsibility for instruction in such a way that each teacher on a team functions primarily from areas of strength and expertise, it becomes more nearly possible to achieve the goal of individualized instruction, though not necessarily on a one-to-one basis. In fact, because of the options offered by a team teaching situation, large group instruction, small group instruction, and independent study can each be chosen for the purposes each can best fulfill (9).

For a team teaching venture to produce the best results, it is necessary that careful scrutiny be given to the philosophy underlying the practice. After those involved are clear on the philosophy, they are in a position to establish educational objectives and to determine the means required best to accomplish those objectives. These means may entail the full-time or occasional inclusion on the teaching team of professional specialists and auxiliary personnel.

At this point arranging the physical environment for learning and determining optimum student grouping—whether in small or large groups or for individual study—become factors developed from the prior planning on which team teaching is based and without which it cannot succeed. This planning must include provision for adequate record keeping so that the teachers involved can fulfill their responsibility for reporting to parents and school administration as well as they do to students for learning.

Team teaching is not a panacea, but it is a flexible and exciting means to the progressive betterment of instruction, which produces increased professional and personal satisfaction for all involved (21).

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11. Kingham, Jon Rye, and Benham, Barbara J. "Team Teaching: Familiar Ideas in New Combinations." *The Clearing House* 47: 342-45; February 1973.
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and researchers in the concepts and skills needed to develop the program in the direction the pilot study required.

Engman, Leila. *Team Teaching Will Work*. 1973. 7 pp. ED 085 374. MF & HC. Unpublished.

Research has indicated that teachers are willing to be involved and are capable of being involved in instructional development. According to Kingham and Benham, team teaching has failed in the past due to a lack of planning time, personality clashes, and inability to integrate material. To solve these problems, one can utilize Bixby's definition of supervision as a "pool of services to which all members of the professional team make contributions and from which all can draw as their needs demand." Both the State College Area School District in Pennsylvania and Indiana University at Bloomington have attempted to develop the pool-of-services concept in teaching.

"IGE (Individually Guided Instruction)." *Education Digest* 38: 25-28; January 1973.

IGE, a new form of elementary school organization, has been revolutionalizing U.S. classrooms. Its success has been attributed to a format that tries different kinds of teaching methods, techniques, and strategies with a single end—to develop the individual on her/his terms.

Millard, Joseph, and Mannatt, Richard P. "Organizational Factors Related to Successful Team Teaching Programs." *Journal of Educational Research* 66: 215-20; January 1973.

This study attempted to identify the use and importance of five organizational factors used in conjunction with teaching teams.

Rogers, John W. *A Report of the Team-Teaching, Team-Governance Program, Rockland Junior High*. Rockland, Mass.: Rockland Public High Schools, 1972. 95 pp. ED 083 123. MF & HC.

This document is a report on an experiment in institutional change as related to team teaching and governance initiated at Rockland Junior

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BIBLIOGRAPHY ON TEAM TEACHING

by John Aquino

This annotated bibliography was developed by the ERIC Clearinghouse on Teacher Education from a computer search of the ERIC data. Several unannotated entries are included. This bibliography cites both ERIC documents (ED) as announced in the monthly abstract journal *Research in Education* and journal articles as announced in *Current Index to Journals in Education*. Unless marked "not available," ERIC documents can be read on microfiche at 16 ERIC clearinghouses and more than 500 institutions that have ERIC microfiche collections. Copies of these documents on microfiche (MF) or in hardcopy (HC) can be purchased by their ED number from the ERIC Document Reproduction Service (EDRS), P.O. Box 190, Arlington, Virginia 22210. Prices vary according to page count: for details, contact EDRS or the ERIC Clearinghouse on Teacher Education, One Dupont Circle, Washington, D.C. 20036. Journal articles are not available from EDRS in any form.

Arends, Richard I., and Essig, Don M. *United Structure and Differentiated Staffing in the Elementary School. DSP Progress Report No. 1: Structure and Staffing*. Eugene, Oreg.: Eugene School District 4, 1972. 28 pp. ED 060 511. MF & HC.

This report is the first in a series describing the background, theory, and progress of the differentiated staffing project in the Eugene, Oregon, School District. This particular report reviews the history of the project and outlines the organizational structure that has emerged and developed in the experimental elementary schools. A number of questions, both practical and theoretical, pertaining to the unitized elementary school and differentiated staffing are discussed.

Arikado, Marjorie S., and Musella, Donald F. *Status Variables Related to Team Teacher Satisfaction in the Open Plan School*. Paper presented at the annual meeting of the American Educational Research Association, New Orleans, February-March 1973. 10 pp. ED 076 562. MF & HC.

This study investigated relationships between two status variables—congruence and consensus—and team teacher satisfaction with the

team situation. The sample consisted of 148 teacher teams selected from 74 open area schools. Results indicate that teachers on balanced teams and or leaderless teams tended to be more satisfied than teachers on unbalanced teams and/or teams with formal leadership. In teams with formal leadership, teacher satisfaction was found to be positively related to team satisfaction with the team situation.

Bowering, David J., and Splaine, John E. *Team Teaching: Student Perceptions of Two Contrasting Models.* Reprint of paper presented at the Association for Educational Communications and Technology convention, March 1974. 33 pp. ED 086 240. MF & HC.

After experiencing two contrasting team teaching methods in the same course, students were administered a Likert-type questionnaire to ascertain student opinion regarding their experiences under each method. An overall comparison of effectiveness between team teaching and traditional teaching revealed that students perceived team teaching as being more effective and that they were able to establish rapport in a team teaching structure as readily as they could in a traditional approach. The extent to which the team approach was seen as effective depended on its organizational design. Students generally preferred a team in which the leader was clearly indicated.

Carlisle, David H., and others. *The Instructional Planning Team: An Organizational Arrangement To Accomplish Planning, Teaching, and Evaluation in a School. A Pilot Study.* Berkeley, Calif.: Far West Laboratory for Educational Research and Development, 1971. 65 pp. ED 066 795. MF & HC.

To determine if the Instructional Planning Team as an organizational arrangement would increase the ability of a group of classroom teachers to use research-based information to improve their instruction, a pilot test was conducted. As an experiment in research product utilization, the project was unsuccessful and was consequently terminated in June 1969. Two major problems were the overambitiousness of the in-service training program in its scope and demands on the teachers and the program's inability to solve the dilemma of teachers caught between two mutually incompatible roles—instructors in a continuous classroom program and trainees

High School. The document is divided into two sections: description and results. Part one indicates that low student morale, absenteeism, discipline, and vandalism prompted the principal and staff to adopt a team-teaching format that ultimately led to restructuring the school and, in fact, turning control of the junior high school over to the teachers. The description details the changes and procedures involved, including the adoption of an experimental curriculum, a six-day cycle, and five "schools-within-a-school." Tables and statistics in part two detail the results of the project, which included a reduction of student absenteeism, vandalism, and suspension.

Sowers, Paul C. *Let's Team Teach in Our Elementary School.* NASEC Monograph Series. Spectrum. Flagstaff: Northern Arizona Supplementary Education Center, 1968. 23 pp. ED 030 941. MF & HC.

Team teaching offers the benefits of optimizing the distribution of scarce educational resources while moving toward the established goal of individual instruction. Team teaching is organized horizontally when each member of the teaching team teaches in all subject areas for one year. The vertical form prevails when the teachers assume responsibility for a group of students over two or more years in two closely related subjects. The learning-teaching modes of team teaching utilize large-group, small-group, and individual instruction. Most existing school buildings can be adapted to this variability of instruction, but new structures should be designed for maximum flexibility of room size to cope with changing demands and situations.

York, I. Jean. *Grouping Children for Instruction in Team Teaching. Module IV.* Austin: University of Texas, Research and Development Center for Teacher Education, 1971. 100 pp. ED 048 129. Document not available from EDRS. Available from Leslie Press, 111 Leslie Street, Dallas, Tex. 75207. ($2.80 each volume; $19.60 set of seven; accompanying tapes and films also available.)

The fourth of seven modules on team teaching, this document deals with grouping children for instruction so that teachers may understand a) the purposes of grouping, b) the various kinds of grouping, c) the variables to be considered in choosing a method, d) the ways grouping can facilitate individualized instruction, and e) the need for a flexible system.

UNANNOTATED SELECTIONS

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Elkins, Robert J. *Team Teaching and Individualized Instruction*. Speech presented at Conference of Modern Language, History and Social Studies Teachers, Wetzlar, Germany, 1970. 14 pp. ED 057 644. MF & HC.

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Greenwich Public Schools. *A Compendium of Team Teaching in the Dundee School, Greenwich, Connecticut, 1958-66*. Greenwich, Conn., the Schools, 1965. 34 pp. ED 052 541. MF & HC.